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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,418	09/22/2003	Daisuke Sato	117218	6508
25944	7590	02/22/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			BODDIE, WILLIAM	
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DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/665,418	Applicant(s) SATO, DAISUKE	
	Examiner William Boddie	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☒ Claim(s) 1-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/22/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-23 are objected to because of the following informalities: "detection object". Applicant cites "detection objects" that are specifically limited to fingerprint images in claims 16-17. This currently appears to imply that the fingerprint image is performing detection. Changing the instances of "detection object" to *detected object* would seem to be more appropriate.
2. Please also note that claims 7 and 8 recite, "the feature point of the image". Lacking discussion of feature points in claims 1 and 2 requires that "the feature point" be altered to read, *a feature point*. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 and 13-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Matusis (US 6,603,462).

With respect to claim 1, Matusis discloses, an input device comprising: an image capture section which captures an image of a detection object (105 in fig. 1);

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an image comparison section (320 in fig. 3) which compares the image of the detection object captured by the image capture section with registered information (310 in fig. 3, also note col. 6, lines 37-40);

a movement detection section (340 in fig. 3) which detects movement of the detection object by using the image of the detection object when it is determined that the registered information includes information corresponding to the image of the detection object according to a result of comparison by the image comparison section (col. 6, lines 50-56; fig. 7; especially note the disclosed order of the feature recognition and movement detection); and

a control information output section (350 in fig. 3) which outputs control information corresponding to a parameter type (equivalent to different fingerprints, fig. 5, col. 2, lines 33-35) associated with the registered information corresponding to the image of the detection object based on a detection result of the movement detection section (fig. 7, col. 5, lines 17-24).

With respect to claim 2, the only additional limitation over claim 1 is the inclusion of a registered information storage section which stores registered information corresponding to parameter type.

Matusis discloses, a registered information storage section which stores registered information corresponding to parameter type (310 in fig. 3, and fig. 6, which details the contents of the memory, clearly stored corresponding to parameter type, i.e. finger feature.).

With respect to claims 3 and 4, Matusis discloses, the input device as defined in claims 1 and 2 (see above), wherein the registered information is a feature point of the image (510b in fig. 5, col. 5, lines 50-52).

With respect to claims 5 and 6, Matusis discloses, the input device as defined in claims 3 and 4 (see above), wherein the feature point is extracted from the image of the detection object captured by the image capture section (510b in fig. 5, col. 5, lines 58-65).

With respect to claim 13, Matusis discloses, the input device as defined in claim 2 (see above), comprising: a registration section which registers the registered information according to the parameter type (col. 5, lines 58-65).

With respect to claims 14 and 15, Matusis discloses, the input device as defined in claims 1 and 2 (see above), wherein the registered information (fig. 6) includes a plurality of pieces of image information (510-620 in fig. 6), the parameter type being associated with each piece of the image information (finger feature 1, finger feature 2 in fig. 6).

With respect to claims 16 and 17, Matusis discloses, the input device as defined in claims 1 and 2 (see above), wherein the image of the detection object is a fingerprint image (510a in fig. 5).

With respect to claim 18 and 19, Matusis discloses, an information device comprising: the input device as defined in claims 1 and 2 (see above); and a processing section (100 in fig. 1) which performs control processing based on the control information from the input device (col. 6, lines 57-66).

5. Claims 1-2, 7-8 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Dickinson et al. (US 6,501,846).

With respect to claim 1, Dickinson et al. discloses, an input device comprising: an image capture section which captures an image of a detection object (fig. 1); an image comparison section (block 128 in fig. 8) which compares the image of the detection object captured by the image capture section with registered information (block 126 in fig. 8; col. 20, lines 25-27), a movement detection section (block 130 in fig. 8) which detects movement of the detection object by using the image of the detection object when it is determined that the registered information includes information corresponding to the image of the detection object according to a result of comparison by the image comparison section (col. 19, lines 61-67, col. 20, lines 1-33); and a control information output section (image processor generates output control signals; col. 10, lines 3-6) which outputs control information corresponding to a parameter type associated with the registered information corresponding to the image of the detection object based on a detection result of the movement detection section (col. 10, lines 11-40 details the use and manipulation of parameters).

With respect to claim 2, the only additional limitation over claim 1 is the inclusion of a registered information storage section which stores registered information corresponding to parameter type.

Dickinson discloses, a registered information storage section which stores registered information corresponding to parameter type (col. 10, lines 11-40, specifically note line 22, which details a memory being included to store finger images).

With respect to claims 7 and 8, Dickinson discloses, the input device as defined in claims 1 and 2 (see above), wherein the movement detection section detects the movement of the detection object by using the feature point of the image (col. 17, lines 63-67 details a feature point algorithm (minutia extraction algorithm); later col. 19, line 61-col. 20 line 3 discusses using the image of a fingerprint to discern movement).

With respect to claims 11 and 12, Dickinson discloses, the input device as defined in claims 1 and 2 (see above), wherein the image capture section includes a detection surface and captures the image of the detection being in contact with the detection surface (col. 20, lines 5-20, discusses the capturing of images once the user's finger is in contact with the device), and wherein the control information output section outputs the control information of first and second axis directions which intersect each other at right angles on the detection surface (col. 21, lines 1-6 discusses the multitude of directions that can be discerned by the device, note specifically up/down, left/right. Clearly these are first and second axis directions that intersect each other as described in claim 12).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (US 6,501,846) in view of Schiller (US 4,752,966).

With respect to claims 9 and 10, Dickinson discloses, the input device as defined in claims 1 and 2 (see above), wherein the movement detection section detects the movement of an object using a fingerprint image (col. 19, lines 61-62).

Dickinson does not expressly disclose, wherein the movement detection section detects the movement of the detection object using a center of gravity of the image, and wherein the center of gravity is calculated from the image of the detection object captured by the image capture section.

Schiller discloses, comparing fingerprints using a center of gravity of the image, and wherein the center of gravity is calculated from the image of the detection object captured by the image capture section (col. 11, lines 17-26, discloses a process that is similar to movement detection; also note col. 5, lines 65-68, which details the use of a center pixel to base all of the subsequent processing off of.).

Schiller and Dickinson are analogous art because they are both from the same field of endeavor namely, fingerprint imaging and analysis.

At the time of the invention it would have been obvious to calculate and base the movement detection, taught by Dickinson, on the center of gravity of the fingerprint image, disclosed by Schiller.

The motivation for doing so would have been, to increase the speed of movement detection (Schiller, col. 2, lines 10-11).

Therefore it would have been obvious to combine Dickinson with Schiller for the benefit of faster detection to obtain the invention as specified in claims 9 and 10.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liu (US 6,351,257) discloses controlling a cursor via a fingerprint image.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Will Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wib
2/9/06

AMR A. AWAD
PRIMARY EXAMINER
